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Valvular Heart Disease

STROKE IN PATIENTS WITH AORTIC STENOSIS: THE SIMVASTATIN AND EZETIMIBE IN AORTIC STENOSIS STUDY

Poster Contributions

Hall C

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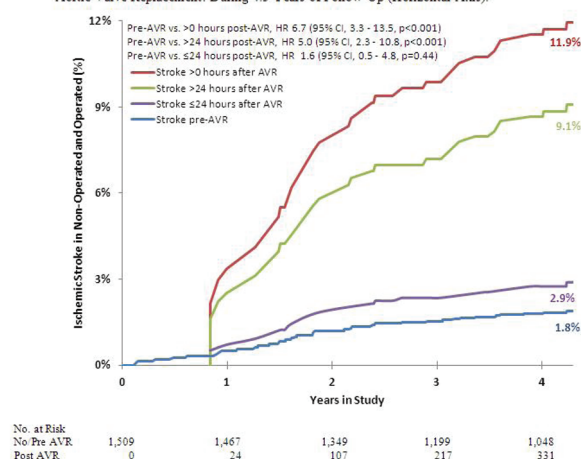
Background: Risk of stroke in patients with atrial fibrillation (AF) can be assessed by prediction scores. This has not been tested in aortic stenosis (AS) where aortic valve replacement (AVR) could alter predicted outcomes.

Methods: Asymptomatic patients with mild-to-moderate AS included in the Simvastatin and Ezetimibe in Aortic Stenosis (SEAS) study. Patients with diabetes, established vascular atherosclerosis or receiving oral anticoagulation were excluded. Ischemic stroke was the main endpoint in this study. Cox-models treating AVR as a time-varying covariate, were adjusted for AF and CHA2DS2-VASc scores (Congestive heart failure, Hypertension, Age ≥ 75 years, Diabetes mellitus, Stroke/Transient ischemic attack, Vascular disease, Age 65-74 years and Female sex).

Results: 1,509 patients followed for 4.3 ± 0.8 years (6,529 patient-years of follow-up). Rates of ischemic strokes were 5.6 vs. 21.8 per 1000 patient-years pre- and post-AVR (Figure), 429 (28.4%) underwent AVR and 139 (9.2%) died. Age ≥ 75 years was the only multivariate predictor of stroke pre-AVR (hazard ratio [HR] 3.8; 95% confidence interval [CI], 1.4 to 10.7, $p=0.01$). Including post-AVR strokes, pre-operative AF (HR 2.5; 95% CI, 1.1 - 6.1), CHA2DS2-VASc score (HR 1.4; 95% CI, 1.0 to 1.8) and AVR in itself (HR, 5.3; 95% CI, 2.4 - 11.6, all $p<0.05$) were independently associated with incident ischemic stroke.

Conclusion: Pre-operative AF, AVR, and components of the CHA2DS2-VASc score were the major predictors of stroke in AS.

Figure Cumulative Hazard of First-Ever Ischemic Stroke (Vertical Axis) Prior to and Following Aortic Valve Replacement: During 4.3 Years of Follow-Up (Horizontal Axis).



Abbreviations: AVR: Aortic valve replacement, HR: Hazard ratio. * Cumulative hazard estimate for post-operative strokes is calculated from the time of the first stroke following aortic valve replacement (~10 months after enrollment). The first patient underwent aortic valve replacement 28 days after randomization.